

Fig. 1

ICTR : 61	AGTTCTTGATCGGCTGTTGGCACCTGC - GAGCTTGGGGCTCAGCCACCTGTT 119
ICTR : 73	
SIR : 73	AGTGTGCTCCATCGTTGGGGATACAGAG - TTGGATACTAGGCTAGTGTGCTCTG 131

ICTB :	120	GGTTGGCTGAGGCACTGGT--GGCTCTTGGCTCTACGGTTGGCTCG 177
	132	189
STB :		CCCCCACTTGGGCAATTGGGTACGGCT-CTAG-TGGCAATAATTTTATTGGGCTCCC

ICTB :	237	GCTCTGGCTGAGAGATATCGATCTGGGGCAAGCA--ACCCCATTCATGGCTGGTGCT	293
SLR :	249	GCTGACCTTGGCTGAT--CAACCAAG-GGAAGGGTTGACTCCCATGGTTAGTTT	305

ICTB :	294	GCTCTACTGGGGCTCGATGCCCTAGCAACGGACTCTACCCGTACGGCTGAGCTT	353
SLR :	306	TGCCCTACTGGGTGATTTGGCGATTCGGCGATTCGGCGATTCGGGATTTCTCGGTAAAATGGCGCGGC	365

Fig. 2a

Fig. 2b

Fig. 2c

Fig. 2

Fig. 2a

ICTB : 354	AGTTGGGCTAGCCAAACTGAC-GCTC-TACCTGTTGGTTTGCCCTAGCGGCTCGGGTT	411
SLR : 366	GTCGGGGTTAGCAGAAATTAAACAGCTAATTATGCTGTTCTAC--TGGCGCGAGGTTA	423
ICTB : 412	CTCCGCAATCCCCGTCTGC-GATCGCTGCTGTTCTCGGTGGTGTGATCACATCGCTTT	470
SLR : 424	TTGCAAAACAAACAATGGTTAAC-CGGTTAGTAACCGTTGTTTACTGGTAGGGCTATT	482
ICTB : 471	TGTCAGTGTCTACGGCCTCAACCAATGGATCTACGGCGTTGAAGAGCTGGCGACTTGGGT	530
SLR : 483	GGTGGGGAGTTACGGTCTGCGACAAACAGGTGGACGGGTAGAACAGTTAGCCACTTGGAA	542
ICTB : 531	GGATCGCAACTCGGTTGCCGACTTCACCTCACGGGTTTACAGCTATCTGGCAACCCCAA	590
SLR : 543	TGACCCCACCTCTACCTTGGCCCAAGGCCACTAGGGTATATAGCTTTTACGTAATCCCAA	602
ICTB : 591	CCTGCTGGCTGTTATCTGGTGCCGACGACTGCCCTTT-CTGCAGCAGCGATCGGGTGT	649
SLR : 603	TCTCTGGCGGCTTACCTGGTGCCATGACGGGTTGAGCTTGAGT-GCCCTGGTGGTAT	661
ICTB : 650	GGCGCGGGCTGGCTCCCCAAGCTGCTGGCGATCG-CTGCACAGGTGGAGCAGCTTATGT	708
SLR : 662	GGCGACGGTGGTGGCCCAAAGCTGGTGG-GAGCAACCATGGTATTGTTAACCTACTCTGT	720
ICTB : 709	CTGATCCTCACCTACAGTCGCGGTGGCTGGCTGGTTTGTGCCATGATTTTGTCTGG	768
SLR : 721	CTCTTTTTACCCAGAGCCGGGGCGGTGGCTAGCAGTGTGCCCTGGAGCTACCTTC	780
ICTB : 769	GCGTTATTAGGGCTCTACTGGTTCAACCCCGTCTACCCGACCCCTGGCGACGCTGGCTA	828
SLR : 781	CTGGCCCTTGTACTCTGGTGGTACCCAAATTACCCAAATTGGCAACGGTGGTCT	840
ICTB : 829	TTCCCAAGTCGTATTGGGTGGACTAGTCGCGGTGCTCTT-GGTGGCGGTGCTTGGACT---	884
SLR : 841	TTGGCCCTGGC---GATGCC--GTGGCGTTATATTAGGTGGGGAGCGTTGATTGCG	894
ICTB : 885	-TG-AGCCGTTGCGCGTGCCTGTTGAGCATCTTGCTGGGGCGTGAAGACAGCAGCAAC	942
SLR : 895	GTGGAACCGATTGACTCAGGGCCATGAGCATTTTGCTGGCGGGAAAGACAGCAGTAAT	954

Fig. 2b

ICTB : 943 AACTTCCGGATCAATGTCGGCTGGCGGTGCTGCAGATGATTCAAGATCGGCCTGGCTG 1002
 ||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
 SLR : 955 AATTTCGGCATCAATGTTGGGAAGGGTAAAGCCATGATCCGAGCCGCCATCATT 1014

 ICTB : 1003 GGCATCGGCCCCGGCAATACCGCCTTAACCTGGTTATCCCTCTATCAACAGGCGCGC 1062
 ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
 SLR : 1015 GGCATTGGCCCAGGTAACGAAGCCTTAACCAAATTATCCTACTATATGCGGCCCCGC 1074

 ICTB : 1063 TTTACGGCGTTGAGCGCTTACTCCGCTCCGCTGGAAGTCGCGGTTGAGGGCGGACTACTG 1122
 ||| ||| ||| ||||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
 SLR : 1075 TTCACCGCCCTGAGTGCCATTACCTAGAAATTGGTGGAAACGGGTGTAGTT 1134

 ICTB : 1123 GGCTTGA-CGGCCTCGCTTGGCTGCT-GCTGGTCACGGCGGTGACGGCGGTGGCAGG 1180
 ||| ||| ||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
 SLR : 1135 GGTTTTACCTGTATGCTC-TGGCTGTTGGCGTTACCTAGGCAAAGGC-GTAGAACTGG 1192

 ICTB : 1181 TGAGCCGACTGCGGCGCGATCGCAATCCCC--AAGCCTTTGGTTGATGGCTAGCTTGGC 1238
 ||| ||| ||| ||||| ||||| ||||| ||||| ||||| ||||| |||||
 SLR : 1193 TTAAACG-CTGTCGC-CAAACCCCTGCCCGGAAGGCATCTGGATTATGGGGCTTAGC 1250

 ICTB : 1239 CGGTTTGGCAGGAATGCTGGGTACGGCTGTTGATACCGTGCTCTATCGACCGGAAGC 1298
 ||| ||| ||| ||||| ||||| ||||| ||||| ||||| |||||
 SLR : 1251 GGGGATCATCGGTTGTTGGTCCACGGCATGGTAGATACTGGTACCGTCCCCGGT 1310

 ICTB : 1299 CAGTACGCTCTGGTGGCTCTGTATTGG--AGCGATCGCGAGTTCTGG--CAGC-CCCAA 1353
 ||| ||| ||||| ||| ||||| ||| ||||| ||||| |||||
 SLR : 1311 GAGCACTTTGTTGGTGG-TTGCTAGTGGCCATTG-TTGCTAGTCAGTGGCCAGGCCAG 1368

 ICTB : 1354 CCTTCCAAGCAACTCCCTCCAGAAGCCGAGCATTAGACGAA 1395
 ||| ||| ||| ||| ||||| ||||| ||||| |||||
 SLR : 1369 GCCCGTTGGAGGCCAGTAAAGAA---GAAAATGAGGACAAA 1407

Fig. 2c

ICTB : 1 MTVWQTLTFAHYQPQQWGHSSFLHRLFGSLRAWRASSQLLVWSEALGGFLLAVVYGSAPF 60
 +++W++L F + PQ+WG S LHRL G ++W +S L EALG L+A+++ +APF
 SLR : 5 ISIWRSLSMFGGFSPQEWRGSVLHRLVGWQSQWIQASVLWPHFEALGTALVIIIFIAAPF 64
 ICTB : 61 VPSSALGLGLAAIAAYWALLSLTDIDLRQATPIHWLVLLYWGVDALATGLSPVRAALVG 120
 ++ LG+ + A+WALL+ D + TPIH LV YW + A+A G SPV+ AA G
 SLR : 65 TSTTMLGIFMILLCGAFWALLTFADQPGKGLTPIHVLVFAYWCISAIAVGFSPVKMAASG 124
 ICTB : 121 LAKLTLYLLVFAALAARVLRNPRRLRSLLFSVVVITSFLFVSVYGLNQWIYGVEEELATWDRN 180
 LAKLT L +F LAAR+L+N + + L +VV++ L V YGL Q + GVE+LATW D
 SLR : 125 LAKLTANLCLFLAAARLLQNKQWLNRVLTVVLLVGLLVGSYGLRQQVDGVEQLATWNDPT 184
 ICTB : 181 SVADFTSRVYSYLGNPNLLAAYLVPPTAFSAAIGVWRGWLKPLLAIAATGASSLCLILT 240
 S +RVYS+LGNPNLLAAYLVP T S +A+ VWR W PKLL + LCL T
 SLR : 185 STLAQATRVYSLGNPNLLAAYLVPMTGLSLSALVVWRRWPKLLGATMVIVNLLCLFFT 244
 ICTB : 241 YSRGGWLGFVAMIFVWALLGLYWFQPRLPAPWRRWLFPVVLGGLVAVLLVAVLGLEPLRV 300
 SRGGWL +A+ + L +W+ P+LP W+RW P+ + V + A++ +EP+R+
 SLR : 245 QSRGGWLAVLALGATFLALCYFWWLQPKFWQRWSLPLAIAAVAVILGGGALIAVEPIRL 304
 ICTB : 301 RVLSIFVGREDSSNNFRINVWLAVLQMIQDRPWLGIGPGNTAFNLVYPLYQQARFTALSA 360
 R +SIF GREDSSNNFRINVW V MI+ RP +GIGPGN AFN +YP Y + RFTALSA
 SLR : 305 RAMSIFAGREDSSNNFRINVWEGVKAMIRARPIIGIGPGNEAFNQIYPYYMRPRFTALSA 364
 ICTB : 361 YSVPLEVAVEGGLLGLTAFAWLLVTAVTAVRQVSRLRRDRNPQAFWLMASLAGLAGMLG 420
 YS+ LE+ VE G++G T WLL VT V V R R+ P+ W+M +LA + G+L
 SLR : 365 YSIYLEILVETGVVGFTCMWLAVTLGKGVVELVKRCRQTLAPEGIWIMGALAAIIGLLV 424
 ICTB : 421 HGLFDTVLYRPEASTLWWLCIGAIASFWQPQPSKQLPPEAEHSDEKM 467
 HG+ DTV YRP STLWWL + +AS W ++ + E+ D+ +
 SLR : 425 HGMVDTVWYRPPVSTLWWLLVAIVASQWASAQARLEASKEENEDKPL 471

Fig. 3

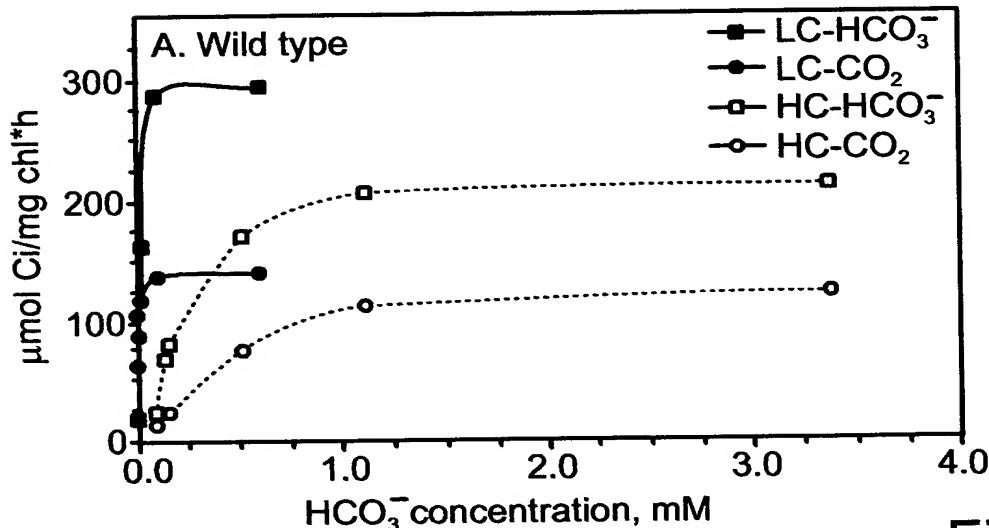


Fig. 4a

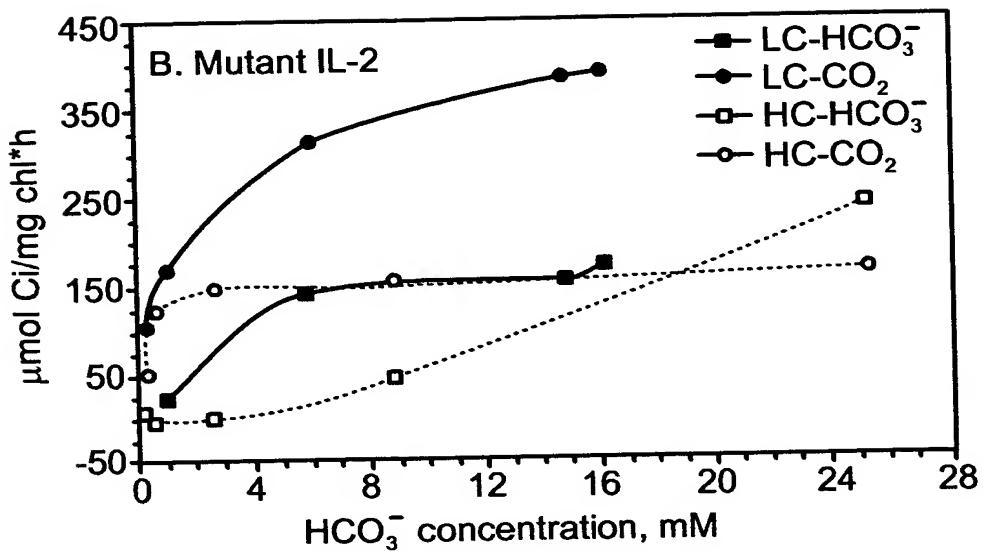


Fig. 4b

Wild type	GGGCT-AGCCGCGATCGCGGCCTATTGGGCC
IL-2 ApaI side	GGGCT-AG--G-GATCGC-GCCTATTGGGCC
IL-2 BamHI side	GGGCTCA-----GATCGC-GCCTATTGGGCC
IctB	G L A A I A A Y W A L

Fig. 5

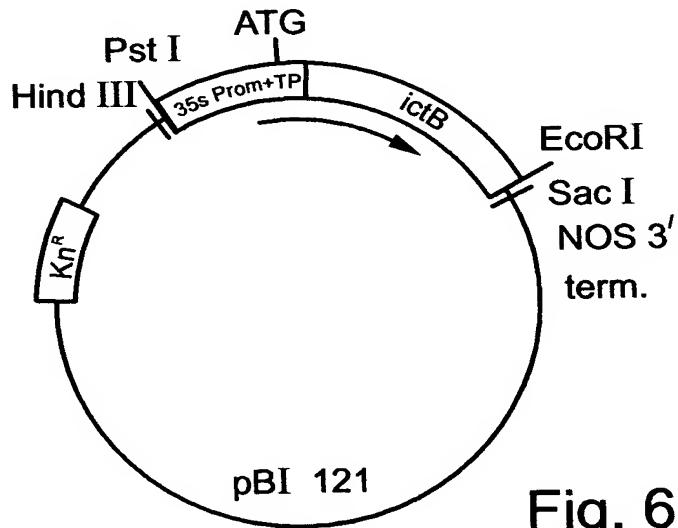


Fig. 6

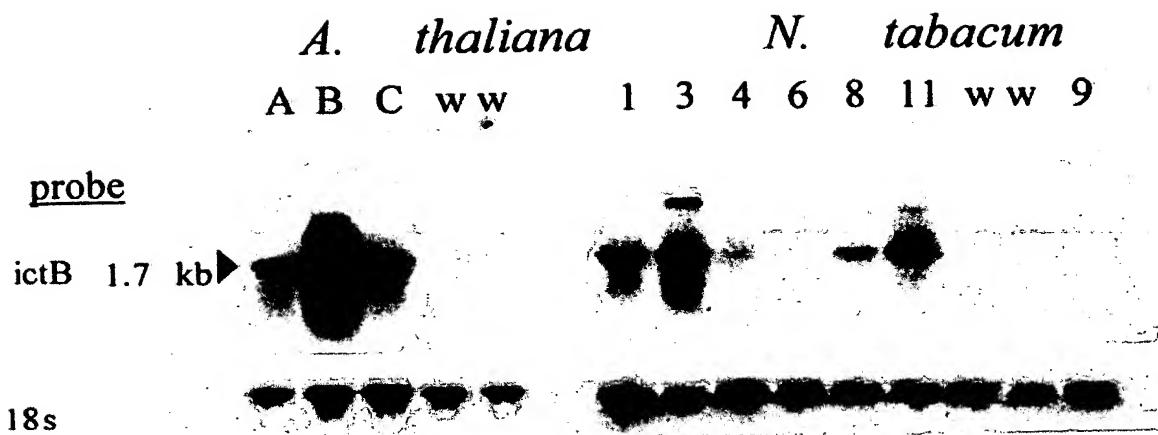


Fig. 7

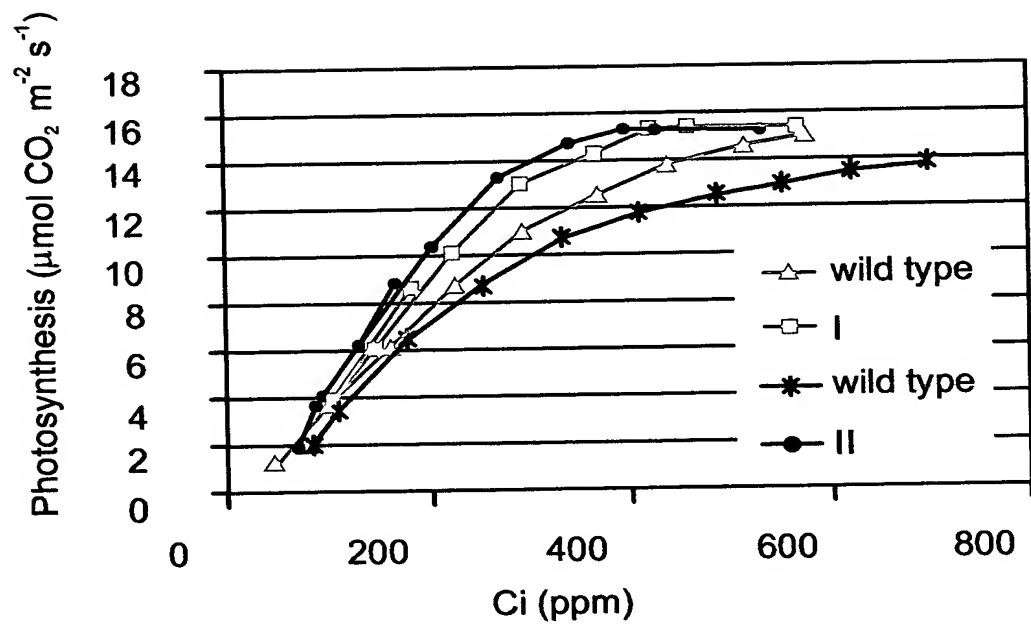


Fig. 8

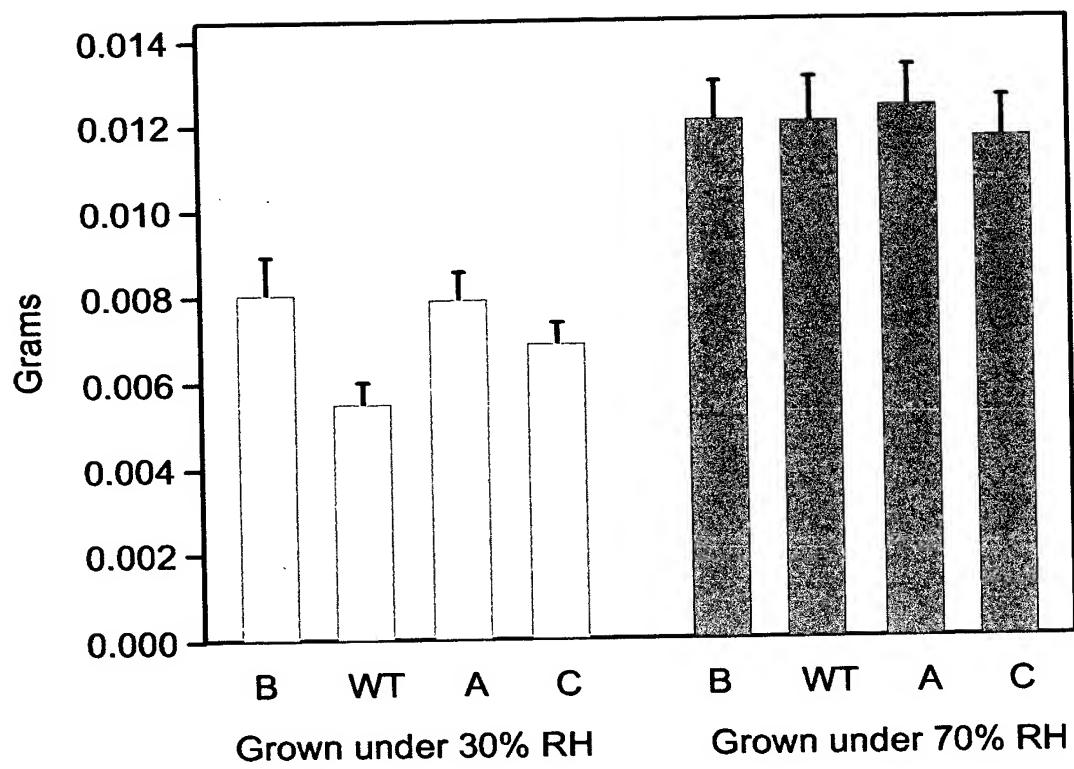


Fig. 9

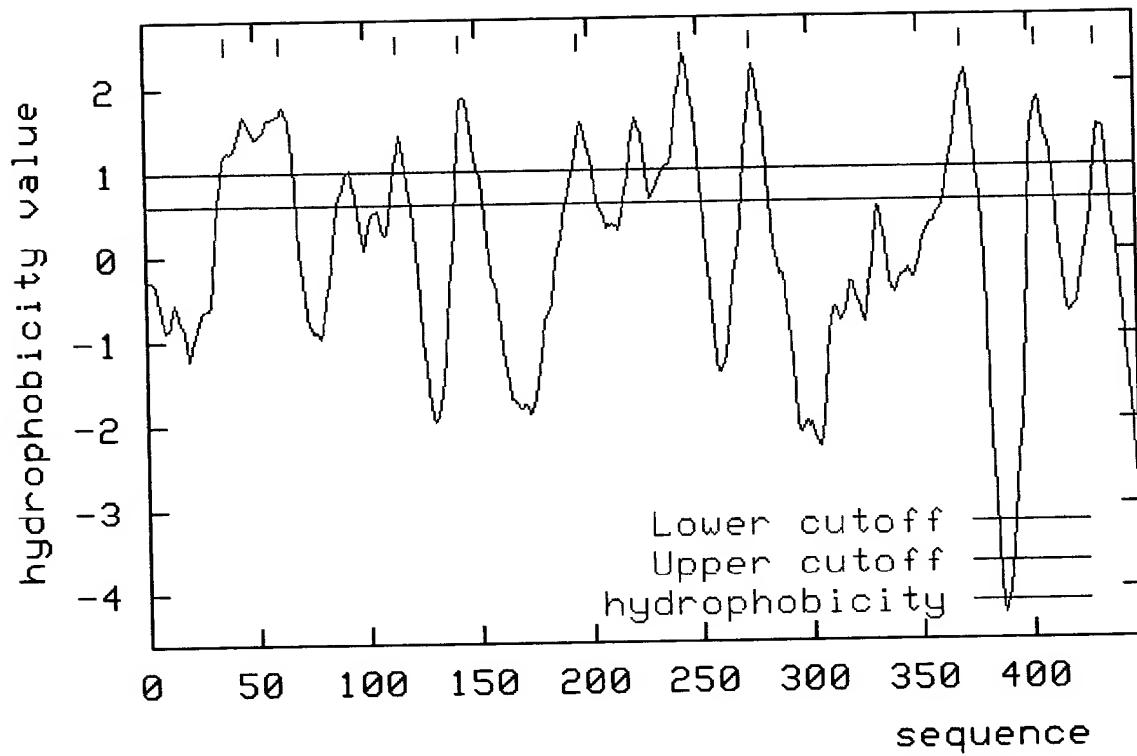


Fig. 10a

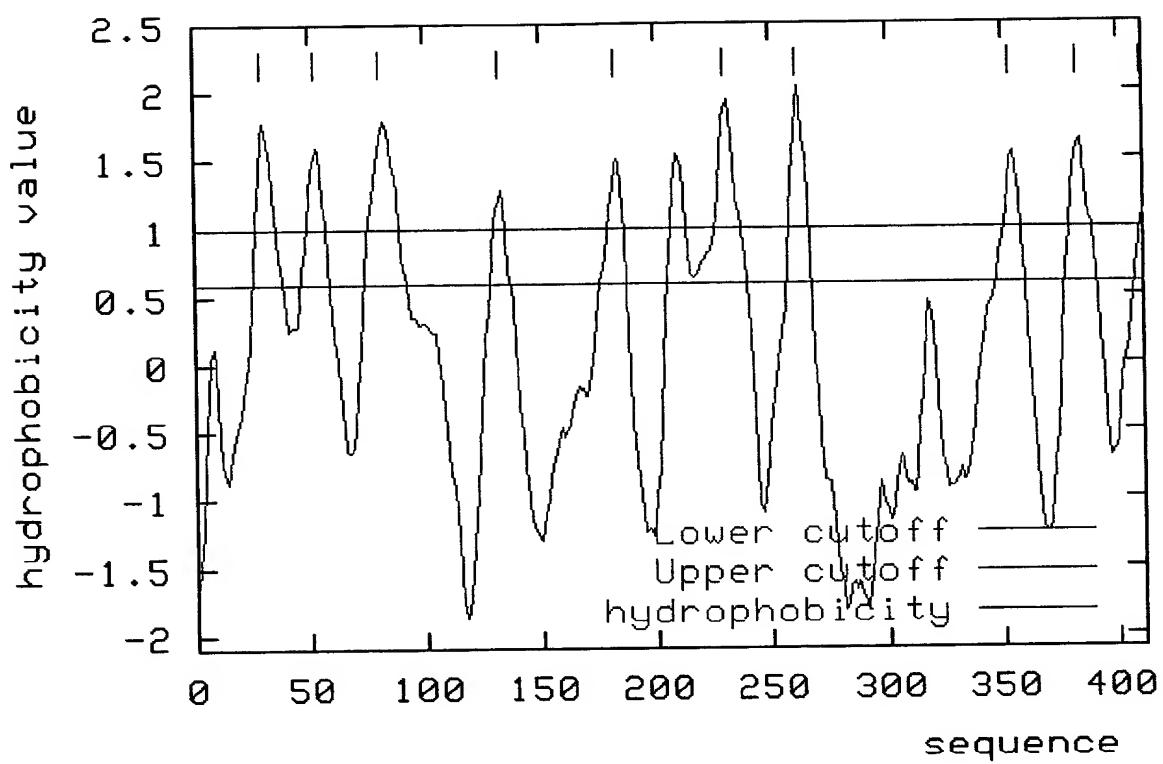


Fig. 10b

Fig. 11a

Fig. 11b

Fig. 11a

Fig. 11

	250	260	270	280	290	300
Anabaena	MLFVNNTACLIFTYSRGGWIGLVAVLGATALLVDWWSVQMPPEFWRTWSLPIILLGGGLIGVL					
Nostoc	MLIVNNTACLILTFSRGGWIGLVAVLAVALVMALLVFWKSVEMPPFWRTWSLPIVLGGGLIGIL					
Trichodesmium	ILLVSCACLRYTGSRGSWIGFLALMFAMLI	LMWYWWRSYMP	FWQIWSLPIAVGSFAGLL			
SLR1515	LVNLLCLFFTQSRGGWLAVLALGATFLALCYFWLPQLPKFWQRWSLPLAIAAVAVILG					
IctB	ATGASSCLILTYSRGGWLGFVAMIFVWALLGLYWFQPRLBAPWRRWLFPVVLGGLVAVL					
Thermosyn	MLGMNAASLILTFSRGGWLGLVAATIAGVVLGIWFWPRPLQWRRWGVPMTMGLAIALC					
Prochlorococcus	ALGLGITATLFSFSRGGWLGMLSALAVILVLLLRSTSHWPLWVRRLLPLIVIVLGTAML					
Synechococcus	TALLAGSATVFTYSRGGWLGLLAALALAGMLILLRTTAHWPPPLWRRLLPLAALLIAGIAL					
	: ***.*:..:	*	* *:			
	310	320	330	340	350	360
Anabaena	LIAVLFVEPVFRVLSIFADRQDSSNNFRNNWDAVFEMI	RDRPII	GPGHNSFNKVYP			
Nostoc	LLAVLFVEPVRLRVFSIFADRQDSSNNFRNNWDAVFEMI	RDRPIFGI	GPGHNSFNKVYP			
Trichodesmium	LLAVVLEPLRDRVLSVFAGRQDSSNNFRNNWMSVFD	IMI	RDRPILGIGPGNDVFNKIYP			
SLR1515	GGALIAVEPIRLRAMSIFAGREDSSNNFRINVWEGVKAMIRARP	II	GPGNEAFNQIYP			
IctB	LVAVLGLEPLRVRVLSIFVGREDSSNNFRINVWAVLQMI	QDRPWLGIGPGNTAFNLVYP				
Thermosyn	MGTIVSVPPLRERAASIFVARGDSSNNFRINVWMAVQQMI	WARPWLGI	GPGNVAFNQIYP			
Prochlorococcus	VIAATQIEPIRTRITSLIAGRSDSSNNFRINVWLSLEMI	QARPWLGI	GPGNAAFNRIYP			
Synechococcus	ALAITQLDPIRTRVLSLVAGRGSNNFRINVWLAIAEMV	QDRPWLGIGPGNAAFNSIYP				
	: : *: * * :..:	* *****	*** .	*: **	*****:	** :**
	370	380	390	400	410	420
Anabaena	LYQR-PRYSALSAYSIFLEVAVEMGFVGLACFLWLII	VTINTAFVQLRQLRQSANVQGFW				
Nostoc	LYQH-PRYTALSAYSILF	EVTVETGFVGLACFLWLII	VTFTNTALLQVRRRLRLRSVEGFW			
Trichodesmium	LYQR-PRYSALSSYSVPLEI	VETGFIGLTAFLWLLVT	FNQGVQLQKRLRDADNPQGYW			
SLR1515	YYMR-PRFTALSAYSIV	YLEILVETGVVGFTCMLWLLAVT	LGKGVELVKRCRQTLAPEGIW			
IctB	LYQQ-ARFTALSAYSVP	LEVAVEEGGLGLTAFAWL	LLVTAVTAVRQVSRLRRDRNPQAFW			
Thermosyn	LYQVNVRFTALGAYSIF	LEILVETGVFGVFLWLLAVLGDRARRCFEELRATGS	PQGFW			
Prochlorococcus	LFQQ-PKFNALSAYSVP	LEI	LVETGLAGLMASLALVITGMRKGLAGLNSNHPL	---	---	ALP
Synechococcus	LYQQ-PKFDALSAYSVP	LEI	LVETGIPGLLACLGLLLSSIQRGLR	I	HQQ	---
	: : *: *: :*:	** . *:	*: . . . : : : :
	430	440	450	460	470	480
Anabaena	LVGALATLLGMLAHGTVD	I	WFRPEVNTLWWLMVALIASYWTPLSANQCQELNLFKEEPT			
Nostoc	LIGAIAILLGMLAHGTVD	TVWYRPEVNTLWWLIV	VALIASYWTPLTNQTNPS	---	---	NPEPA
Trichodesmium	LIGAIAAMVGLIGHGLVD	TVWYRPPVSTLWWLIV	VALIASYSSQQGVRSRE	---	---	
SLR1515	IMGALAAIIGLLVHGMV	DTWYRPEAS	TLWWLICGAIASFQWQPSKQLPPEAEHSDEKM	---	---	
IctB	LMASLAGLAGMLGHGLF	DTVLYRPEAS	TLWWLICGAIASFQWQPSKQLPPEAEHSDEKM	---	---	
Thermosyn	LMGTIAAMIGMLTHGLV	DTI	WFRPEVATLWWLMVAIVASFTPFQSKTANGTFSNRDPEP	---	---	
Prochlorococcus	ALASLAAIAGLAVHG	ITDTIFFRPEVQLVGWFCLATLAQ	TQPEQKQLQTE	---	---	
Synechococcus	AIGSLAAIAGLITQG	ITDTIFFRPEVQLIGWFALASLGATWLD	---	---	---	
	: : * : *: :* : *: :* . : *: : . :	: * : *: :* . : *: : . :	: *: : . :	: *: : . :	: *: : . :	: *: : . :
Anabaena	SN-					
Nostoc	VN-					
Trichodesmium	---					
SLR1515	LAS					
IctB	---					
Thermosyn	---					
Prochlorococcus	---					
Synechococcus	---					

Fig. 11b

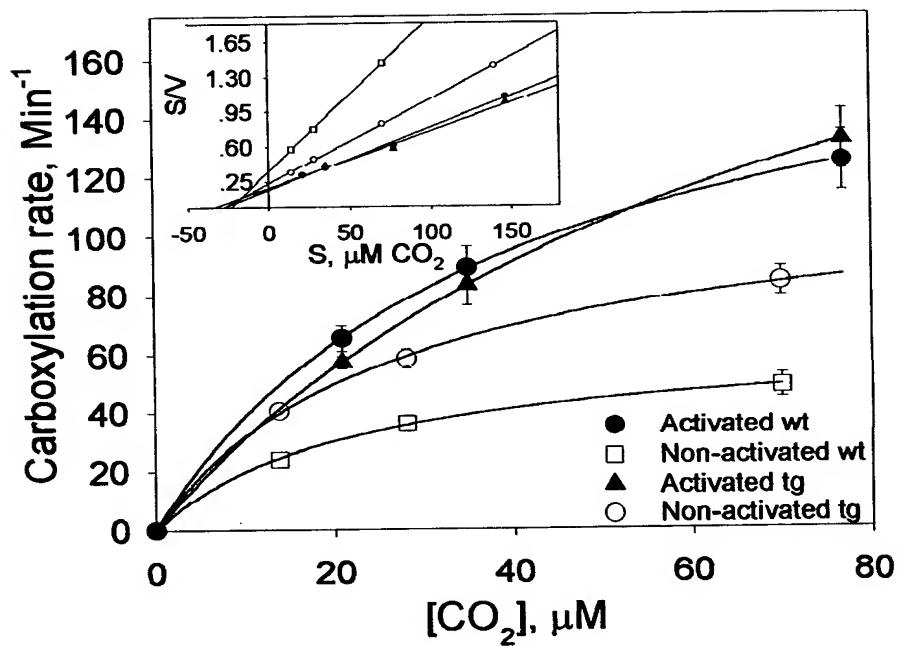


Fig. 12